Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-24 (Cancelled)

25. (Previously presented) An image sensor comprising:

a plurality of pixels arranged in an array of rows and columns;

a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels having at least one color of every color in the color filter pattern in a predetermined arrangement with an identical pattern of colors in each color filter kernel, and wherein the color filter kernels are arranged in at least two different uniformly distributed sets that are correlated with the color filter pattern; and

a mechanism for independent control of an integration time of each color filter kernel according to its spatial location, wherein at least one color filter kernel includes at least one fast pixel having a first integration time and at least one slow pixel having a second integration time, wherein the first integration time is longer than the second integration time and data from at least one slow pixel includes valid signal level information with adequate signal to noise ratio while data from at least one fast pixel does not contain valid signal level information.

26. (Previously presented) The image sensor as in claim 25, wherein the color filter pattern is a Bayer color filter pattern.

27. (Previously presented) The image sensor as in claim 25, wherein the plurality of color filter kernels each comprise a 2x2 kernel.

28. (Previously presented) The image sensor as in claim 25, wherein the plurality of color filter kernels comprises an alternating pattern of two lines at one integration time and adjacent two lines at another integration time.

29.   (Previously presented) The image sensor of claim 25, further comprising a signal line for each row of pixels in the array, wherein each signal line is routed to at least a portion of the pixels in two adjacent rows based on the arrangement of the color filter kernels.

30.   (Previously presented) A camera comprising:

an image sensor comprising:

a plurality of pixels arranged in an array of rows and columns;

a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels having at least one color of every color in the color filter pattern in a predetermined arrangement with an identical pattern of colors in each color filter kernel, and wherein the color filter kernels are arranged in at least two different uniformly distributed sets that are correlated with the color filter pattern; and

a mechanism for independent control of an integration time of each color filter kernel according to its spatial location, wherein at least one color filter kernel includes at least one fast pixel having a first integration time and at least one slow pixel having a second integration time, wherein the first integration time is longer than the second integration time and data from at least one slow pixel includes valid signal level information with adequate signal to noise ratio while data from at least one fast pixel does not contain valid signal level information.

31.   (Previously presented) The camera as in claim 30, wherein the color filter pattern is a Bayer color filter pattern.

32.   (Previously presented) The camera as in claim 30, wherein the color filter kernels each comprise a 2x2 kernel.

33. (Previously presented) The camera as in claim 30, wherein the plurality of color filter kernels comprises an alternating pattern of two lines at one integration time and adjacent two lines at another integration time.

34. (Previously presented) The camera of claim 30, wherein the image sensor further comprises a signal line for each row of pixels in the array, wherein each signal line is routed to at least a portion of the pixels in two adjacent rows based on the arrangement of the color filter kernels.